proprietary pipeline system, uses both types of exchanges simply to transport others' crude oil in its pipelines for a fee. Similarly, Texaco, Shell, Chevron, and others trade Kern River and Midway Sunset crude oils (two interchangeable crudes produced on the east and west sides of the San Joaquin Valley) barrel-for-barrel for the locational convenience of each party to the trade. Some contracts quote only a location differential, and other contracts quote posted prices, thereby defining the trade as a buy/sell. However, the buy/sells the team reviewed do not appear to involve actual sales.[21] Moreover, there is no obvious opposing economic interest in either case; the companies are simply conducting exchanges to obtain crude oil in locations that are more favorable for their refining or subsequent distribution. This observation is consistent with the Director's decision on exchanges, described in Appendix 2.

4) Audit Findings

The intent of the special audit was to look beyond posted prices, which the MMS has generally relied on for royalty valuation purposes, and determine if significant crude oil volumes were sold and/or purchased at premia above posted prices. Fairly comprehensive Texaco accounting records directed the auditors to specific contracts for examination. On the other hand, Shell

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[21]Sales typically must fulfill three criteria: transfer of title, payment of consideration, and the intent to sell. The first two criteria may be satisfied in a buy/sell arrangement, but the apparent intent of those the team reviewed was simply to move crude oil to mutually advantageous locations.

provided less data to MMS' auditors. Accordingly, underpayment determination methodologies differed between the two companies.

- For Texaco, the MMS auditors examined contracts associated with crude oil distribution points for 1993. When the cost of crude oil received at each location was subtracted from the value booked when the crude was shipped out, an average volume-weighted premium of $0.89 per barrel was calculated.[22] Only third-party transactions were used in this computation, but buy/sell exchanges were included along with outright purchases and sales.

- Because Shell did not provide detailed accounting data, the auditors tabulated the premia over posted prices associated with 23 contracts that were in effect during 1984. The simple, arithmetic average (as opposed to volume-weighted) was $1.33 per barrel. The premia ranged from $0.14 to $3.60 per barrel.

In general, the audit data confirmed the presence of premia over postings in both Texaco and Shell dealings. However, the average premium computed for Texaco includes transportation costs. For example, subtracting all apparent transportation costs for Texaco

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[22]This figure includes transportation costs associated with moving the crude oil between distribution points. Texaco refused to provide information to determine these costs, so the auditors took the position that no cost will be permitted unless this information is provided.

for 1993 leaves a premium of about $0.16 per barrel.

The principal reason that the residual premium may be so much lower than the $0.50 to $1.00 premium discussed elsewhere in the report is that the MMS auditors included buy/sell exchanges in their computations, and these rarely carry premia. Further examination shows that over half of the volume MMS auditors examined is for receipts and transfers at the end of Texaco's heated pipeline to San Francisco. This implies that a majority of the buy/sell exchanges the auditors included in their computation probably are trades solely to provide transportation to the refineries in the San Francisco Bay Area.

V. RECOMMENDATIONS

A. General

The team considered a number of issues related to California oil valuation, including:

1) Further audit/contract review procedures potentially leading to bills,

2) How such procedures might vary by time period,

3) How such procedures might vary by company,

4) Time periods for pursuing collections,

5) Valuation methodologies, and

6) Revision of the current MMS oil royalty valuation regulations.

The team was able to reach consensus on some of these issues, but "agreed to disagree" on others. (Where the team split on an issue and two different recommendations are given, nothing should be inferred about their relative position in the text.) As an example, the team reached consensus on a recommended valuation approach for post-3/1/88 periods, but not for earlier ones where MMS may choose to pursue additional royalties.

B. Recommended Approach for Post-3/1/88 Time Periods

1) Overview

In its draft paper dated December 6, 1995 (Appendix 3), the team identified seven options for addressing potential oil royalty underpayments. The recommended option described here is a hybrid of several options. Specifically:

- The team's recommended approach involves calculation of a premium based on audit and review of arm's-length sales and purchase contracts.

- The team recommends that straight exchanges not be considered to be arms-length sales or purchases. Similarly, the team recommends that buy/sell transfers

not be considered arms-length sales unless the companies can show that there are opposing economic interests in each buy/sell contract and that the intent was truly to sell or buy the oil as opposed to merely swap the oil for locational convenience.

- The team recommends that MMS minimize the additional audit work required to collect underpayments by:

  - AS/LM issuing a royalty "payor letter" to obtain arm's-length contract information for the periods in question. The purpose of this letter, patterned after the Interior Department's June 18, 1993 letter regarding natural gas settlements, would be to obtain purchase and sales prices for California crude oil and other selected contract information. The team feels this action will expedite the potential appellate process, because the payor letter would be final agency action.

  - Reviewing each target company's records obtained from Long Beach II to focus any subsequent audit on specific contracts or trading relationships.

Note also that while the information collection techniques may vary, the team otherwise recommends the same general procedures for future California oil royalty valuation until or unless MMS further revises its royalty valuation regulations.

2) Valuation Recommendations

Details of the team's recommendations and the accompanying rationale are as follows:

- The first benchmark at 30 CFR § 206.102(c)(1) should be employed to calculate the volume-weighted average premia subject to collection. As discussed earlier, under this subsection MMS would develop premia it would apply to transactions not at arm's-length. The premia would be based on the price received for arm's-length sales. MMS would prepare bills and pursue collection on a company-by-company basis. Audit and contract review procedures may vary somewhat depending on circumstances--such as company marketing situation and records availability. The audit/contract review may result in calculated premia based on differences between booked costs and revenues of related contracts (such as MMS has already done for Texaco) or review of pure contract premia (such as for the Shell audit work done to date). The audit/contract review used in developing the weighted average premia should be limited to arm's-length sales and purchases for the company subject to review. If the first benchmark is not applicable to a company, MMS would use the next relevant benchmark.

- Oil sold at arm's-length would be valued based on the lessee's gross proceeds.

- For production not sold at arm's-length, gross proceeds establishes minimum value. If MMS can show that a lessee's gross proceeds in a specific non-arm's-length transaction are higher than the premium calculated under the benchmarks, royalty on Federal production tied to that transaction would accrue on the higher gross proceeds amount.

- In general, the team believes that buy/sell contracts are not at arm's-length. We recommend that MMS review several large buy/sell contracts for each company before it issues a bill or issue letter. If MMS concludes for that company that buy/sell contracts are not arm's-length purchase or sale transactions, MMS would state in its issue letter that it didn't consider buy/sells in reaching its preliminary findings. The responsibility would rest with the company to show that the parties to individual buy/sell contracts have opposing economic interests according to the arm's-length definition at 30 CFR § 206.101 (or indeed, that they even represent actual sales and purchases). The lessee has the burden to demonstrate that its contract is arm's-length (30 CFR § 206.102(b)(1)(i)).

  Further, the team believes that MMS may find that apparent premia associated with outright sales or purchases are clearly greater than those related to buy/sells. (This may occur where the buy/sell contract only includes, in addition to specified prices, a

location differential and no other apparent premium.) If this is the case, we recommend that MMS' issue letters cite this fact to support a preliminary finding that buy/sells aren't arm's-length sales and purchase contracts and thus weren't included in calculating apparent royalty underpayments due on non-arm's-length sales and purchases. Once again, the responsibility would rest with the company to show that individual buy/sell transactions truly represent contracts wherein the parties have opposing economic interests according to the arm's-length definition at 30 CFR § 206.101.

- In calculating the volume-weighted premia applicable company-by-company, the reasonable, actual transportation costs associated with specific crude oil movements should be allowed according to MMS' regulations at 30 CFR § 206.105. If the oil transportation is under an arm's-length transportation contract, subpart (a) would apply. If transportation is under a non-arm's-length contract or there is no contract (such as use of the company's owned facilities), subpart (b) would apply. (For periods before 3/1/88, the provisions of the U.S.G.S. Conservation Division Manual should apply, since these were the guidelines then in effect.[23])

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[23]They differ from the current procedures mainly in certain levels of detail--for example, the permissible rate of return in non-arm's-length situations is higher in the current rules. The general philosophy is the same for pre- and post-3/1/88; accept

- The volume-weighted premia determined company-by-company through the period of the audit/contract review would apply to all of that company's Federal oil production, excluding oil sold at arm's-length and Royalty-in-Kind volumes the company delivered for MMS' account.

- In determining the volume-weighted premium, arm's-length sales without premia must be included in the calculations. When possible, the premia must be calculated both monthly and on a field or area basis according to 30 CFR § 206.102(c)(1). If the premia are established on a yearly basis, the rationale for doing so must be thoroughly explained. For example, if contracts provided for the same premia through the year, and all contracts were in effect throughout the year, there would not be a need to develop a monthly premium.

3) Collection Procedures

Additional audit/contract review work may be needed to justify collecting royalties from previous periods, even for Shell and Texaco. Therefore, recommendations in this area fall into two

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arm's-length transportation fees and use a system of [(depreciation + operating cost + return on investment for the year)/yearly throughput] for non-arm's-length or no-contract situations. Either way the company's demonstrated reasonable, actual cost is allowed.

categories: first, the method of accumulating enough information to determine unpaid royalties; and second, the approach for initiating collection.

On the subject of information gathering and audits, the team recommends the following:

- Issue a royalty "payor letter" to the targeted corporations (about 10 companies) ordering them to submit arms-length contract information for periods in question. This letter, patterned after the Department of Interior's June 18, 1993 letter regarding natural gas settlements, would require for each arms-length contract in effect during the time period under review:

  - grade and volume of crude oil sold (purchased);
  - point of title transfer (e.g., gathering tanks);
  - transportation charged (paid);
  - price basis for the sale (purchase);
  - period during which the above price terms were in effect.

  These data items should be provided for **all** arm's-length purchases and sales of California crude oil, and not be limited to identifiable Federal royalty crude. The contracts would cover all activity by the corporation and all its consolidated entities, not simply the production company.

- Review each targeted company's records obtained from Long Beach II. The objective would be similar to the purpose of the "payor letter;" that is, to obtain a body of company-specific information on arms-length purchases and sales of California crude oil similar to Federal royalty crude. To expedite the data collection process, this review could take place concurrent with the "payor letter" process described above. (Receipt of comprehensive data in response to the payor letter might preclude the necessity to review these records.) Perhaps more importantly, though, if the "payor letter" approach either is not used or is less than fully successful, these data are readily available for MMS review.[24]

- MMS audit personnel should oversee the data collection procedures and decide if the companies have provided enough (and timely) information for MMS to calculate specific royalty underpayment amounts for the entire target period. If not, MMS would perform supplemental audit work as needed.

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[24]We recognize some limitations related to the fact that the available contracts generally cover only the period 1980-89. Application of this review for periods later than 1989 may be limited but still useful in the sense that many contracts are "evergreen" and may continue to apply in future periods. Also, for periods before 1989 we recognize that the MMS contract review may necessarily be limited to the contracts covering the period it ultimately decides to pursue.

To initiate collection, in general, the team recommends:

- Once sufficient information has been obtained and any necessary additional audit work performed for the selected period, MMS first should send the company an issue letter describing any problems found. This would serve to crystallize the issues and dollar amounts involved, give each company an opportunity to respond, and set the stage for either a final MMS demand or negotiations.

- MMS should be prepared to issue a bill for unpaid royalties soon after receipt of the company's response to the above issue letter. Depending on the individual situation, the MMS demand letter may include an order for restructured accounting.

Due to the amount of audit and research already performed on Texaco's and Shell's records, a slightly different approach is recommended for these companies:

- For Texaco, the team recommends that MMS immediately send an issue letter including proposed bill amounts for 1989 and 1993. The issue letter should cite the apparent systemic underpayments demonstrated by the MMS audits.

- The payor letter should also address all relevant years other than 1989 and 1993. Texaco should be informed

that, unless it timely provides information sufficient for MMS to make a determination of underpayment, it must perform a restructured accounting for all other years during the time period selected. Once Texaco is given reasonable time to respond (no longer than 90 days), MMS should then issue a bill for 1989 and 1993. Also, if the other information received from Texaco is insufficient or untimely, MMS should issue an order for restructured accounting for the rest of the selected period.

- The recommended approach for Shell is similar to that for Texaco if MMS chooses to go back at least to 1984. That is, MMS should send an issue letter including proposed bill amounts for 1984 based on completed audit work. MMS should also send the "payor letter," to cover all other relevant years. MMS should inform Shell that unless they timely provide information sufficient for MMS to make a determination, they must perform a restructured accounting because of the 1984 audit findings. (To support the finding of a systemic error, a proposed bill for selected months for other years also should be developed. Hopefully the basis for such a bill would be the Long Beach II records for Shell contracts reviewed during the Texaco audit.) Once Shell has had a reasonable time to respond, MMS should then issue a bill for 1984 and the selected additional months. If Shell does not respond sufficiently or timely to MMS' "payor letter," MMS'

order should include a directive to perform restructured accounting for the rest of the selected period. If MMS decides not to go back as far as 1984, the recommended approach should be the same as for all the other targeted companies.

4) Post-1988 Period Rationale

We believe this approach provides the best combination of:

1) Attempting to collect the appropriate royalties in conformance with the 1988 valuation rules,

2) Being consistent with past MMS practices and procedures,

3) Creating a position likely to be perceived as reasonable (and hence enforceable) by the courts and other arbiters,

4) Developing methods usable by MMS auditors on a continuous basis, and

5) Not taking a position likely to damage MMS' standing in related issues elsewhere.

C. Recommended Approach for the Pre-3/1/88 Period

1) Overview

Members of the team differ on the recommendation for assessing and collecting royalty underpayments for the period prior to 1988. The differences relate to opinions about the latitude allowed under the pre-1988 regulations to establish royalty value for Federal crude oil. Specifically:

- The Energy and Commerce Department representatives believe that the pre-1988 regulations allow MMS to establish value, at least for royalty payors that are also refiners, in accordance with the refining industry's own methods of establishing relative value. That is, the true value of California crude oil to most of the larger royalty payors (who are refiners) should be established in a direct, quality-and transportation-adjusted comparison to Alaskan North Slope crude oil. This is the methodology also proposed by one of the MMS consultants, Micronomics.

- The Interior Department representatives, from MMS and the Solicitor's Office (MMS/SOL), believe that the pre-1988 regulations are, in principle, the same as the post-1988 regulations. Their recommended approach is the same as applied to the post-1988 period, as described above. The primary reasons are that the

regulations rely on prices paid or offered in the same field or area as the lessee's production, and royalty is not to be less than gross proceeds accruing to the lessee from the sale of its production.

The following sections amplify these positions.

2) Establishing Royalty Underpayments Employing ANS Crude Oil--Recommendation by the Energy and Commerce Department Representatives

Throughout the 1980's, evidence mounted[25] that posted prices, particularly in California, were substantially lower than the true value of the oil. Lawsuits by the State of California and the City of Long Beach uncovered a wealth of company documents that showed companies routinely bought and sold California crude oil at prices substantially over posted prices. The records the team reviewed, as discussed in the "Findings" section of this report and Appendix 4, show that they justified those actions with internal analyses demonstrating that, even at premia of several dollars per barrel over posting, California crude oil was still undervalued. The standard usually used in the records reviewed was quality-adjusted prices or values for Alaskan North Slope crude oil--one of the few competitively-traded crude oils

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[25]MMS feels evidence existed during the 1980's to indicate that posted prices were an acceptable measure of oil value. Studies by A.D. Little Inc. and the General Accounting Office did not find that posted prices undervalued oil in California. Also, the Department of Justice declined to pursue antitrust actions against the defendants in the Long Beach litigation.

in the State.[26] During the period under review ANS crude oil accounted for approximately 30 to 45 percent of the crude oil refined in California.

The team's Energy and Commerce Department representatives recommend establishing the value of California crude oil based on quality-and transportation-adjusted open-market prices of ANS oil. This ANS valuation is the open-market price paid in the geographical proximity to the locations where a major portion of California crude oil is refined. Adjustments for relative quality differences between ANS and California crude oils would be made using factors employed by the industry at the time.

(a) Authority Under MMS Regulations

In the opinion of the team's Energy and Commerce Department representatives, prior to 1988, the MMS royalty valuation regulations were substantially more flexible than are the current regulations. In fact, the 1988 regulations, which were the result of several years of discussion between the Federal and state governments, industry and others, were in part a response to perceived subjectivity in interpretation. Therefore, the Energy and Commerce representatives believe that the regulations that were in effect at the time permit the MMS to value California crude oil just as the Long Beach suit records show that oil companies themselves established value.

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[26]By 1984, Line 63 mix, a blend of San Joaquin Valley heavy and light crudes, was also traded enough to justify publishing a "spot" price in several industry trade publications.

The regulatory authority for this position derives from 30 CFR § 206.103, which begins:

> The value of production, for the purpose of computing royalty, shall be the estimated reasonable value of the product as determined by the Associate Director... (emphasis added)

The section continues, observing that "due consideration" should be given to highest prices paid, prices received by the lessee, and posted prices. Latitude was allowed to include "other relevant matters." The regulation quite clearly establishes the gross proceeds to the lessee from a royalty oil sale as only the lower limit on valuation.

The pre-1988 regulations did not contain a complex benchmark system for valuing oil not sold at arm's-length. Rather, they included qualified direction on the use of sales prices for valuation. Specifically, for onshore leases, the regulations state:

> In the absence of good reason to the contrary, value computed on the basis of the highest price... paid or offered at the time of production in a fair and open market for the major portion of like-quality oil...produced and sold from the field or area where the leased lands are situated will be considered to be a reasonable value. (30 CFR §206.103 (1986)[27]

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[27]Identical language is contained in outer continental shelf leases. The terms "sold" and "major portion" are not defined, thereby lending a degree of subjectivity to interpretation and application of the regulation.

This infers that, at a minimum, value should be established by arm's-length[28] sales records.

The team's investigations, and the observations of MMS' consultants, indicate that the amount of California crude oil purchased or sold under arms-length contracts was relatively small. On the other hand, hundreds of thousands of barrels per day of ANS crude oil were sold in California by ANS producers--principally Sohio/British Petroleum, which did not have a California refinery. Further, although California crude oil quality varies over a large range of API gravities, California refiners found ANS crude sufficiently similar to permit using simple price adjustments (e.g., figures of $0.15-$0.20 per API degree) to establish a relative value for the local crude oils.

It follows that the "open market" standard for California crude oil value was (and still is) Alaskan North Slope crude oil sold in the Los Angeles and San Francisco markets. The applicability of this observation to California royalty values might be hard to establish were it not for the fact that the Long Beach records show that refiners (who were also Federal crude producers) routinely valued incremental purchases of California crude oil in this manner. This, in and of itself, constitutes the "good reason to the contrary..." to forego valuation using purchase and sales contracts in favor of establishing California royalty value based on ANS crude oil sales.

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[28]Although the regulation does not specifically mention arms-length purchases and sales, intra-corporate transfers certainly do not qualify as "open market" activity.

Finally, the team only addressed the "fair and open" aspect of the California market peripherally. Activities focused mostly on contractual evidence regarding the hypothesis that posted prices understated the value of California crude oil. Nevertheless, several observations indicate that the market for California crude oil was not "fair and open:"

- During the 1980's, the California oil market was heavily concentrated with the integrated firms owning 75 to 80 percent of oil producing and refining activities and 100 percent of the heated pipelines that transport crude oil to market.

- The crude oil contracts review indicated that large producer-refiner-pipeline owners routinely traded among themselves so that each trading partner obtained crude oil in favorable locations. In other cases, companies owning pipelines simply transported crude for other large producer-refiners. Typically, they used exchanges rather than open tariffs. Shipping crude oil for third parties, under State law, would require that the pipelines hold themselves open as common carriers to all parties, thus eliminating the proprietary status of the pipelines. Internal records showed some majors' concerns about compromising the proprietary pipeline system in the State. Non-integrated producers, even large ones, rarely appeared as exchange partners with the major pipeline owners. Rather, they sold their crude to the major company at, or near, its point of